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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,669	12/08/2000	Tatsuo Sato	108079	1578

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EXAMINER

NGUYEN, HUNG

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 01/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,669

Applicant(s)

SATO, TATSUO

Examiner

Hung Henry V Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-31 and 42-44 is/are allowed.
- 6) ☒ Claim(s) 19, 23-25, 32-34, 36 and 39 is/are rejected.
- 7) ☒ Claim(s) 20-22, 35, 37, 38, 40, 41 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19, 23-25, 32-34, 36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyaji et al (U.S.Pat. 5,559,584) in view of Chiba et al (U.S.Pat. 6,337,161) and further in view of Klebanoff et al (U.S.Pat. 6,153,044).

With respect to claims 19, 23-25, 32-34, 36, 39, Miyaji et al (fig.5) discloses an exposure system/method for transforming a pattern formed on a mask onto a substrate comprising substantially all basic features of the instant claims such as: a closed chamber having at least one of a first space (1) for accommodating a mask including an optical path of exposure light; a second space adjacent to the first space (12). Miyaji further teaches replacing air containing oxygen in the optical path with "inert gas such as nitrogen to avoid the decrease in the transmittance of light or the generation of ozone in the exposure apparatus" (see col.1, line 1 thru col.4, line 51). Miyaji et al lacks to show a protecting member, which is provided by a frame for protecting the mask from being contaminated and a gas source for replacing a gas in the space between the protecting member and mask with an inert gas. However, these structures are well known per se. Chiba et al teaches a pellicle (7) provided via a frame (6) for protecting the mask (1) (see fig.1). Klebanoff et al teaches a system having a reticle protecting system for keeping the reticle from particle contamination and "at least" one gas inlet such as valve for replacing a

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gas in the space between the protection member (110) and the mask with an inert gas such as H₂, He or Ne (see abstract and col.5, lines 26-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Miyaji, Chiba and Klebanoff to obtain the invention as specified in claims of the instant invention for the purpose of keeping the reticle from being contaminated, increasing the transmittance of light and whereby improving the quality of the images to be printed.

Allowable Subject Matter

3. Claims 20-22, 35, 37-38, 40-41, 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 26-31, 42-44 are allowed.

4. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record either alone or in combination, neither discloses nor makes obvious the combination of an exposure apparatus and corresponding method where the deformation of a reticle protective member is controlled/or detected during replacement of a predetermined gas in the closed chamber as recited in the claims of the instant application.

Response to Amendment

5. Applicant's amendment filed October 29, 2002 have been entered. Claims 1-18 are cancelled. Claims 19, 21 and 24-35 are amended. New claims 36-45 are added.

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Applicant's amendment is sufficient in overcoming the rejection under 35 U.S.C. 112, second paragraph. Turning to the prior art rejection, applicant's arguments have been carefully reviewed but they are not found to be persuasive. The applicant is reminded that the claimed subject matter to examination will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not be read into the claims. In *re Yamamoto*, 740 F. 2d 1569, 1571, 222 USPO 934, 936 (Fed.Cir. 1984).

With this in mind, the discussion herein will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitation that is not in the claims or any argument that is irrelevant to or does not relate to any specific claimed language will not be warranted.

In response to the rejection of claims 19, 24, and 32, applicant has performed a piecemeal analysis of the references, and then concluded that the references do not disclose claimed features. The Examiner respectfully disagrees with the applicant since it has been held that one can not show non-obviousness by attacking reference individually where, as here, the rejections are based on combinations of references. In *re Keller*, 208 USPQ 871 (CCPA 1981). The rejection is made under 35 U.S.C. 103. Therefore, the issue here is whether or not one having ordinary skill in the art at the time the invention was made to incorporate the teachings of cited references to come up with applicant's invention. As discussed, in the rejection set forth above, Miyaji teaches and exposure apparatus having a mask placed in a closed chamber "having at least one of a first space including an optical path of exposure light and a second space adjacent to the first space" (see fig. 5) and replacing air containing oxygen in the optical path with "inert gas such as nitrogen to avoid the decrease in the transmittance of light or the generation of ozone

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in the exposure apparatus". Chiba teaches a protective member for preventing contaminants from adhering on the surface of the mask where the protective member is provided via a frame having a plurality of holes for pressure adjustment and Klebanoff teaches a system having a reticle protecting system (110) for keeping the reticle from particle contamination and "at least" one gas inlet (130) for replacing a gas in the space between the protection member (110) and the mask (120) with an inert gas having low absorption characteristic of the exposure light. As such, the combination of references disclose all of the limitations of the instant claims and would be *prima facie obvious* from the purpose disclosed in the references and improving the imaging quality of the exposure apparatus/method.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Prior Art Made of Record

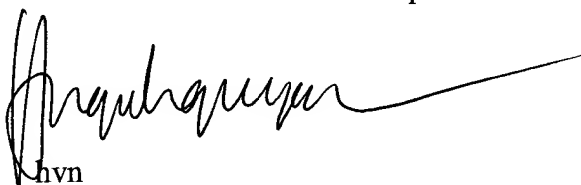
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sego (U.S.Pat. 5,422,704) teaches a lithographic mask structure for protecting the mask from being contaminated.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Hung V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.



hvn
December 30, 2002